1: Gillin E-5 (1932-33) 1936 SR9 Carib SR9

INTRODUCTION

THE original scope of the present study was to gather and interpret data on the social organization and the physical anthropology of the Barama River Caribs of British Guiana. The late Dr. Walter E. Roth, whose death in March, 1933, ended a long and distinguished career as an ethnological investigator both in Australia and in British Guiana, had devoted a period of more than thirty years to a study of the Guiana Indians. Dr. Roth's interests lay most strongly within the fields of material culture. It was felt that his compendious publications (see bibliography) on these aspects of Guiana Indian life left little to be done in that field with the time which could be devoted to the present research. Dr. Roth combined an exhaustive sifting of the literature with the results of his own extensive inquiries carried on in various parts of the colony. He also made valuable contributions to our knowledge of the religion and folklore of the various tribes of the Guianas.

Since the sixteenth century a series of explorers, missionaries, and occasional scientists have published interesting data on the Indians of the Guianas and associated tribes. The problem of the Harvard expedition therefore was twofold: first, to select a tribe which had hitherto been neglected; second, to choose those aspects of primitive life which, on the basis of an examination of the earlier literature, had received scant attention in the past. It was apparent that two tribes which had been most neglected were the Waiwais living at the head of the Essequibo River, and the Caribs of the Barama River in the Northwest District. For financial reasons the latter were chosen.

Only two small anthropometric series had hitherto been collected in the colony. Also it became apparent that there was in existence no sociological analysis of a primitive culture in this area. Physical anthropology and sociology were consequently chosen as the logical fields for research. It was not considered advisable, however, to limit activities strictly to these two fields, to shut them off arbitrarily from other aspects of the native life. It will be seen in the following pages, therefore, that an attempt has been made to present the whole culture, but that detailed description and

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121 114 analysis have been in the main reserved for those features most intimately connected with the social organization.

124 Cultural data were acquired in interviews conducted by the "free association" method, with no preconceived organization imposed upon informants. Conversation was struck up with Indians wherever they were met, on the river in their canoes, around the camp fire at night, in their houses during drinking sprees, anywhere and everywhere. In these informal chats, a note-book was seldom used, but the interviewer retired directly following the conversation and made notes. Informants were frequently recalled to supplement information after the notes had been set down. In this way, without ostensibly directing the discussion or suggesting attitudes or facts, I was able to acquire a familiarity with usages and concepts which could be checked against each other independently. Having thus "blocked out" a certain department of culture, I then proceeded to a series of formal interviews with sober informants to clear up obscurities and further to check accuracy. In the text I have indicated those points concerning which there was important difference of opinion or on which I was able to obtain only unchecked information. Of the information which I have set down, therefore, I am either reasonably certain or have indicated otherwise.

121 114 It is to be regretted that documentary and archeological data concerning the Barama Caribs do not extend back more than approximately a century, so that it is not possible to view the present culture in the light of a long historic background. However, such historical material as is available for this tribe is presented wherever it is relevant to a more complete understanding of the present culture. On the other hand, this study makes no pretense to elaborate historical reconstruction. The purpose of the ethnological portion of this paper is to present Carib culture as it was in the years 1932–1933 and to attempt to understand the fundamental workings of that culture. The author hopes at some future date to complete a thoroughgoing ethnographic comparison of the culture of the Barama Caribs with those reported from other groups in the area.

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123 The investigator spent a total of seven months in the colony.

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SOCIOLOGY OF THE CARIBS

In order to understand the community life of any group of human beings who are living together as a society, it is necessary to analyze the forces of unity and disunity, factors which on the one hand promote the social unity of the community, and those which on the other hand tend to break the society apart. In studying the social life of a society especial attention is usually given to groupings, because, due to the inherent and acquired personal differences among its members, a community rarely exists without some sort of internal organization which assigns to the several members of the community functions more or less suited to their social abilities.

One of the major objectives of the present investigation was to discover and analyze the social factors in Carib community life. Among the Caribs, whose culture generally lacks explicitness, the underlying factors of social organization are at some points far from obvious. Consequently, the most useful method seemed to be to examine all sides of community life from their social aspects. First, we shall attempt a general analysis of Carib society, following which will be presented a more or less intensive analysis of the social life of a single typical community, Sawari settlement.

Groupings in Carib Society. The most obvious facts of social grouping among the Caribs, facts which are apparent to the casual observer, are that the people are organized into individual families or households, and that these families are in turn grouped into small communities, which we shall call settlements or villages. Upon further examination, four additional types of grouping may be discerned, the kin, the extended family, the group of friends, and the kanaima cult. Six types of grouping, therefore, furnish the basis of the social organization: the family or household, the kin, the settlement, the extended family, the group of friends, and the kanaima cult. The factors of sex and age play varying roles in these groupings.

It is now proposed briefly to discuss each of these types of group from the following points of view: (a) factors determining membership in the group; (b) social functions of the group; (c) factors tending toward disorganization of the group.

1: Gillin E-5 (1932-33) 1936 SR9 Carib SR9

its greater relative isolation and freedom from outside influence. It lies in the region of the upper Barama which is out of the sphere of operations of the gold prospectors who come up the river from the Waini and the coast. On the other hand, it is out of touch with those settlements higher up the Barama, which have been culturally and physically influenced by contact with the residents

JOHN COOK'S CLEARING

Building	Use	Adult Occupants Male	Adult Occupants Female	Child Occupants Male	Child Occupants Female
17	Residence	Henry-Daniel	Mary		girl baby
18	Abandoned residence				
19	Residence	John	Rose	boy boy	
20	Drink house				
21	Store and utility house, former residence				
22	Residence	Daniel	Elsie		
23	Residence	John Cook	Laura	boy	girl

of Venezuela. Because, therefore, Sawari appeared to be relatively "pure" in regard to its culture and the physical type of its residents, it was chosen as the settlement to be most intensively studied.

In this section we are endeavoring to analyze the community life of Sawari as it was from December, 1932, to March, 1933, the period during which it was under my observation. The situation is taken as it stood, with little attempt at historical analysis, because of the paucity of historical material. I shall simply endeavor to illumine the functioning of social life in this village as a basis for

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101 121 the understanding of Barama Carib social life in general. Carib life exhibits little institutionalism or formalism that is visible to the naked eye, little that is self-explanatory at first glance. What we desire to understand, therefore, are the factors which cause individuals to live together in a community, the factors which tend to disrupt the community, and the extent of compromise and methods whereby a balance is maintained between these opposing factors so that the stability of the group is maintained. We also wish to know how the life of the individual is enriched by community life and how the activities of the individual are coordinated with those of the group.

601 621 Let us first examine the blood relationships of the members of the settlement. In Figure 13 (at the end of the book) the blood connections of the several residents of Sawari are indicated. Here are given the English names of all individuals in the group who possess such designations, together with the terms of relationship used by Miller, the headman of the settlement, in addressing each individual. The relationship terms were checked through other men and women, and the blood lines were laboriously traced in pidgin English and through an interpreter. Even so, I am not satisfied that the chart completely represents the situation, inasmuch as one of the blood lines could not be traced satisfactorily with the linguistic resources at my command; and I am unwilling to project a geneology from the relationship terms alone. Therefore, the group of brothers composed of Samuel, Columbus, and Henry Daniel, lack precise antecedents in the chart. It was stoutly maintained that these three men came originally from another settlement and that they are distant cousins of Miller. The latter calls them pamuko, the term for male cross cousin, but I was unable to obtain a coherent explanation of the exact connection, so I have preferred to leave the connection indefinite in the chart. Since they are considered blood relatives by Miller and his group, I have so designated them on the chart.

On the chart are indicated five lines of blood relationship. Thus, Miller is demonstrably related by blood to twenty-five of the forty-seven members of the settlement (indicated by solid line); if we include the three above named brothers, Miller is the blood relative of twenty-eight members of the population. John Cook is the blood relative of six members of the settlement (indicated

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

THE BARAMA RIVER CARIBS OF GUYANA RESTUDIED: FORTY YEARS OF CULTURAL ADAPTATION AND POPULATION CHANGE

Abstract

by

KATHLEEN J. ADAMS

• 121 175 [361] [659] The Caribs of the Upper Barama River drainage basin in the North West District of Guyana are restudied. About forty years ago, this population practiced a semi-nomadic adaptation to the rain forest. Now these Caribs benefit from national medical programs and participate in regional markets for labor and local commodities. 121 ✱177 The Upper Barama River Carib population is investigated for changes over time in aspects of its behavioral patterns which have affected its size, distribution, and organization relative to resources available in the natural and social environments. Regional influences are examined, and analyses are made of productive activities and patterns of sharing and direct exchange as this small, relatively isolated population has been integrated into a national political economy.

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

I

INTRODUCTION

114 The Carib Amerindians of the Guyanas have been variously studied. The older reports by Roth (1918, 1924) emphasize material culture and mythology. The data available in the Handbook of South American Indians (Rouse 1948:547-565) are generalized and pertain to the cultural patterns of the Island Carib. Taylor (1938, 1946, 1953) and Banks (1956) have contributed to the contemporary ethnography of the Island Carib. As a precedent in Carib studies in the Guyanas, Gillin presents an ethnographic survey of a specific group, the Barama River Caribs (1936). More recent research adds a problem orientation to this specific focus. Schwerin (1966) and Kloos (1971) consider the manner in which national interests have affected local Carib groups. Schwerin reports on Carib villages affected by the oil and steel industries in Venezuela; Kloos, on Carib villages affected by a regional market for fish in Surinam.

• 121 This study is formulated in reference to these previous ones.
114 The concern here is also a specific group, the Caribs of the Upper
[101] Barama River in the North West District of Guyana. These are essentially the same Caribs studied by Gillin forty years ago. The
*[177] general problem addressed is also similar to the previous ones. The local impact of regional influences is considered. However, Schwerin and Kloos present synchronic analyses. As Gillin did not disguise

121 114 124 informants or locations, another dimension is added here. Individuals can be identified and the establishment of trans-generational continuity is possible.

121 177 (161) Two areas of theoretical concern particularly lend themselves to investigation under the fortuitous circumstances of being able to trace changes occurring over time among a specific group. The first is cultural change: the second, human population control mechanisms.

175 177 182 In regard to cultural change, until forty years ago the Caribs of the Upper Barama River were adapting to the equatorial rain forest with essentially a lithic technology. They combined hunting, (22) fishing, and collecting with a semi-nomadic form of horticulture. (241) Currently, the majority of these Caribs are settled at a community 177 known as Baramita Air Strip. They engage in wage employment, make (465) use of regional markets for local products, participate in agricul- (438) tural development programs, and benefit from national medical (242) programs. From a position of relative isolation in the rain forest, (657) this group has been increasingly encapsulated in the national (161) political economy. Attending this development has been changes in their population size and composition as well as internal organization. These changes are a major focus of the present study.

121 In pursuing the analysis of these changes, cultural materialism is relied upon as the most economical mode of explanation. Among others, Harris (1968) has proposed that techno-environmental determinants can serve in a comparative approach to cultural adaptation. One example of this approach is Murphy and Steward's comparison of the Mundurucu of Brazil and the Northeastern

Algonkians of Canada (1956). The Schwerin report (1966) and particularly Kloos' (1971) analysis also employ a frame of reference that gives emphasis to techno-environmental factors that are generative of cultural adaptation and change.

Accordingly, it is proposed that the organizational strategies of human populations conform to determinants of the exploitative technologies and the resources available. This hypothesis is used to inquire into cultural change among the Caribs of the Upper Barama River. The Carib population identified as the unit for study is a small group, currently numbering about 550. They alone inhabit the Upper Barama River drainage basin. The boundaries of the local population are identified operationally by the cultural practices which maintain a shared set of material exchanges (Rappaport 1969: 184). However, these cultural practices have changed as the materials or resources available to be exchanged have been altered. Over time, external resources have been added to those locally available. What has been maintained is the common participation of this population in these exchanges. Changes affecting the resources available to the Upper Barama River Caribs will be more fully explored in Chapter II.

A second problem with which this study is concerned has to do with certain aspects of human population ecology. Alland (1967) proposes that population adaptation is situationally specific. Accordingly, human adaptation measured by population size can be evaluated in two instances: (1) when two competitive populations occupy the same environment; and (2) when one population occupies

121 a particular environment over a prolonged period of time. This
182 study uses the second option.

However, Alland also proposes that trans-generational population studies be conducted with a systemic reference. The manner in which population size is changed and acts to transform the system of which it is a variable is to be investigated. Previous ecological studies have been conducted on single human populations. Such studies include those by Steward (1938), Vayda (1961), Leeds (1965), and Rappaport (1968). The problems focused upon are relationships among environment, technology, population size, and cultural patterns. These relationships also are considered here. However, this study substantially from these previous ones. First, this is a trans-generational study; because of the data available, changing population adaptation can be evaluated. Also, the systemic assumptions which these earlier studies rely upon cannot be made here. Among the Caribs of the Upper Barama River area, the rapidly changing impact of regional resources does not allow the postulation of an equilibrium system operating within identifiable parameters. Rather, within the limits of the phenomena, the concern here is more simple and direct. The responses of cultural patterns and population size to independently occurring, external resources are explored. The nature of these correlations, rather than their causes, is the object of this inquiry.

121 With regard to population size, it has been noted (Birdsell 1953,
182 Stott 1962, Alland 1970) that human populations adapting to local
161 environments with a lithic technology disclose a relatively low

121 population density. For the most part, these ecological studies
161 consider population size a variable in a closed system. Thus, low
[182] density is attained by behavioral patterns which regulate population size relative to local resources. Cultural practices which control conception or carry a high mortality hazard for an age segment of the population intervene to limit the population size below the limits of the available resources. In the case of the Upper Barama River Caribs, changes in population size will be investigated in relation to a succession of external resources and can be easily identified.

114 Data for this study were collected from several sources.
127 Gillin's report on the same group, The Barama River Caribs of British Guiana (1936) has already been mentioned. In addition, archival data of a general nature and census reports were collected in Georgetown. Finally, field work was conducted on the population in question over a nine-month period in 1970-71.

121 In sum, this inquiry is a case study of cultural change and
*177 attendant shifts in aspects of the human population ecology. The
16 focus is directed to adaptations made by the Upper Barama River
[182] Carib population with their entrance into a regional political economy. The nexus between the nature and extent of external resources available in the Upper Barama River drainage basin and changes in the organization and size of the local Carib population will be explored in the following chapters.

000 future use.

*177 182 As is evident from these data, the dependence on local biotic resources has not remained constant. For the most part, the introduction of iron technology, guns, and new cultigens has not greatly changed the patterns of exploitation of biotic resources. However, cultural changes brought about by the local availability of regional resources have had consequences in the degree to which the forest flora and fauna are exploited as well as the extent of the manipulation of cultigen communities. The history of these external resources may be summarized as follows.

Regional Contacts and External Resources

36 *177 The scattered Carib settlements reported by Gillin (1936) along the length of the Upper Barama River have been abandoned. Amerindians have been attracted by enclaves of introduced economies where new resources are available. In the Upper Barama River area, gold mining [659] activities and later a government settlement project have involved the local population. Also, Caribs have migrated out of the Upper 166 Barama River drainage basin. Groups of Amerindians have gone to Matthew's Ridge, others to the Cuyuni River.[1]

*177 • 121 More specifically, this study concerns the succession of regional influences and the resultant human adaptations in the Upper Barama River area. These external resources which have affected the local population size and social organization have reached the Upper Barama [659] River Caribs through two channels. Some have come as public services 000 available to Amerindians through various governmental agents. Other

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602 population are related in some manner.

In addition to a generational continuity of the human group
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591 involved, there has also been a continuity in interaction. That is,
166 during the period under consideration, material exchanges and the migrations of individuals among Carib settlements in the Upper Barama area have been more pronounced than such exchanges with outside settlements. This permits the Upper Barama Caribs to be
• [121] identified as a single adapting population for the purpose of this
*177 analysis (Rappaport 1969:184). However, the frequency of contacts
361 and the nature of movements among settlements have changed. Specifically, small, dispersed, semi-nomadic social units have given way to nucleations around centers where external resources are available. In this context, different settlement patterns would appear to represent different adaptations devised by the same group of people
[161] to meet differing conditions. Differing rates of population growth also would appear to be the result of the changing circumstances.

Settlement Pattern

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161 During 1932-33, Gillin estimates a Carib population of not more
361 than 600 for the entire Barama River area (1936:113). In all, thirty-three settlements were located along the Barama River (1936: 110). About ten[3] were above Towakaima (see Figure 6). This includes the Savari[4] settlement for which more complete population data were
175 recorded. The population for this settlement consisted of forty-seven
161 individuals (1936:110). Since the primary adaptation was to the rain
162
361 forest, there were no reported concentrations of population in the

[TEXT CONTINUED ON PAGE 40]

361 *177 more remote settlements, was somewhat checked by these markets for local commodities and temporary employment. In order to make use of the government programs and services and yet escape the diminished hunting and gathering opportunities, a pattern of dual residence appears to be emerging with the complete centralization of the Carib population around Baramita Air Strip.

Demographic Features

162 Attending these changes in settlement pattern are changes in population size and age structure. The Upper Barama River Caribs have not been an isolated reproductive population. Although both males and females have left the population, only males have joined it. Thus, for the time period under consideration, the reproductive potential of the females remaining in the population has been realized within the Upper Barama River area. Although the current population does not represent the total reproductive experience of the 1932-33 population, it can serve to give insight into the nature of the increase in population size.

• 121 16 It has been noted that the size of human populations is regulated by cultural practices (Lorimer 1954; Nag 1962) as well as physiological factors (Stott 1962). The present analysis addresses variations in the size of one population adapting to changing environmental conditions. This approach does not lack precedence (Wagley *177 1951; Hinshaw, Pyeatt, Habicht 1972). However, in this case data 162 from different time periods are available on a single, relatively small population. The change in size from about 200 to 551 can be

*177 361 [476] the retention of father and son and son-in-law bonds among workers, as well as by the centralization around the air strip. Temporary cooperation to aid relatives in settling in a new location is also a

• 121 factor in the current residence situation. At this time little analysis can be made of the life cycles of family groups or of individuals. Data are available only on the first year of the resettlement around the air strip, a time of considerable change in the extent and nature of the external resources available in the Upper Barama River area. Family organization is responding to these new circumstances.

*177 464 The population in the satellite settlements, Baramita and Aranka, has had a different experience with the regional economy. Among these segments of the population, men have had little or no employment. The headman of Aranka worked about five separate one-year periods in his youth with porknockers. Another man from Aranka worked for two years at In Time while living with his father. Now he is one of the headman's sons-in-law. Also, men from Aranka have been employed from time to time by the Malaria Eradication Officer. For the most part, the populations in these settlements have maintained a subsistence [438] adaptation to the rain forest. Their livelihoods have been supplemented by selling small amounts of local provisions for commercial items at the trade store.

*177 592 621 The residence patterns in these satellite settlements are somewhat different and they also differ from that characteristic of the households at the Air Strip. At Baramita in 1971, there were five clearings. One was inhabited by a man and wife and their children. Two others were nuclear families recently extended by the addition of

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

VI

CONCLUSIONS

In the previous chapters, attention has been given to the correlations over time of resources available for exploitation and the size and organization of a single population. The economic and reproductive adjustments of the Upper Barama River Caribs have been investigated. In their specific pathway from relative isolation in the rain forest into a national political economy, social organization and population size have been related to resource development. As this population has been centralized by common participation in networks of regional exchange, the household has emerged as the resource-sharing social unit. Ties of general reciprocity with a wider kinship group have tended to be dissolved. Another type of organization which has emerged to consolidate advantage in the regional economy has been client relationships with a middleman patron. In addition, external sources of food and clothing and medical care have tended to override relationships between population size and adaptation to local rain forest resources. An accelerating rate of population growth is currently evident among the Upper Barama River Caribs. In short, this population has evidenced changes in organization and increased population size under the conditions of its national integration.

Adapting to the rain forest, the Upper Barama River Carib population participated in the direct organism-to-organism cycling of

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

*177 43 Upper Barama River Carib population or the perpetuation of the Baramita Air Strip community must include a consideration of the regional economy and its social organization, to which local behavioral strategies and population size are related. Clearly, the Upper Barama River Caribs are now dependent on the external resources made available to them through highly personalized channels. A curtailment in regional exchanges, such as the closing of the gold mine, results in hardship for this population. Similarly, it may be expected that the development of opportunities for regional exchange, especially direct access to regional markets and some measure of local control in regional exchange, will result in further organizational strategies among the Upper Barama River Caribs in their integration into the national political economy. Of course, this development would necessarily be accompanied by publicly available transportation and communication which are the life lines along which regional resource exchanges are conveyed. Also, changes in the apportionment of local resources, such as the implementation of a system of land tenure, would further contribute to a basis for differentiation among the local population in the context of the national political economy.

• 121 This study has been conducted from the perspective of the regional influences upon a local population. The manner in which this inquiry has been informed by the orientations of population ecology and culture change can be phrased to facilitate comparative study. First, a local population is the unit which remains constant. In restudies conducted and proposed on changing societies (Redfield 1950; Lewis

121 1951; Firth 1939; Vogt 1960) the adaptation of a local population has not been given a clear emphasis. In this case, a local population has been the unit for inquiry as in population ecology studies (Vayda and Rappaport 1968). The Upper Barama River Carib population has been investigated for changes over time in aspects of its behavioral patterns which have affected its size, density, distribution, and organization relative to resources in the natural and social environment. Changes in the nature and availability of resources, plus the extent of their convertibility, are important considerations. It is also important to establish the continuity of the local population under consideration. In addition to examining the role of the sexes, the family, and other social units in productive activities, the outlining of the boundaries of resource sharing and the regulation of direct exchanges on the local and regional bases permits the identification of the common material exchanges which define a local population (Rappaport 1969:184).

In studying a population's relationship to its environment, Steward (1938:2) and Netting (1968:16) have emphasized the importance of productive activities with little explicit attention to patterns of resource sharing and more direct exchange. Fittingly, they were concerned with synchronic study of populations with essentially local adaptations. Sahlins (1965) has investigated "generalized reciprocity" as a cross-cultural regularity among hunting and gathering populations, and Lee (1969) has underscored the significance of sharing in human energy relations in his analysis of food consumption among the !Kung Bushman. These studies concern aspects of resource sharing

121 among populations with subsistence economies in local environments. In contrast, Rappaport (1969:187) has suggested the importance of the regulation of material exchanges on a regional basis, but has not conducted substantive inquiry. The attempt here has been to combine the analyses of productive activities and patterns of sharing and direct exchange as a small, relatively isolated population has been integrated into the national political economy.

A first step in such an investigation concerns the nature of the local environment and the technological and organizational manner in which local resources are derived and the uses to which they are put. Included in these uses may be productivity for regional markets, and therein lie the difficulties, both empirical and theoretical, of separating a local ecosystem from a regional system of exchange, as Rappaport has suggested for more isolated populations (1968:224-229). In contrast, Bennett (1969:12) has emphasized the complexity of a population's adaptation which includes external resources. Clearly, in the vast majority of the local populations that can be identified in today's world, local productivity and energy budgets are geared to some extent to encounters with constantly changing national and international market structures. In other words, the degree of articulation of local economies and regional economies may change cyclically as well as more irregularly. The parameters of the economic environment are unstable, and access to information and transportation become vital in the strategies to gain advantage in these changing market structures.

121 Thus, time, specifically changes through time, becomes central in identifying a local population's niche in national and international political economies. A concern with time is prominent in recent ethnological studies with an ecological orientation, including those of Bennett (1969), Meggers (1971), and Hanks (1972), and in this inquiry as well. The ethnographic present and assumptions such as equilibrium social systems are lost as theoretical tools. As a consequence, the interrelationships among resources, population size, and exploitative organization, and changes among these - common concerns for ecological inquiry - can only be established in situational contexts. With shifting environmental parameters, feedback effects are not always apparent.

Accordingly, the ecological attention to the interrelationships of elements in systems has been shifted to the adaptive strategies of local populations and categories of people within them. This is especially apparent in the studies of Bennett (1969) and Hanks (1972). The concern is adaptive postures relative to local and regional resources, as it is in this inquiry. The emphasis is on patterns of exploitative behavior, and the persistence of elements of social structure, including corporate groups, becomes operative as they define and consolidate advantage in the fluctuating market structure.

In some cases, such as inquiry has revealed among the Upper Barama River Caribs, the fluid nature of local resources, which is typical in a rain forest environment, in combination with highly fluctuating, independently occurring external resources, may provide no basis for the elaborations of social structure. In this case,

• 12| technology, although modern substitutions are made, has not brought a marked change in the nature of local productive activities. Furthermore, with the very limited convertibility of resources, the Upper Barama River Caribs continue to relate to all resources in the manner in which they afford subsistence. What has changed is the organization of the population relative to the availability of external resources. Specifically, client relationships have been established with external agents and the household has emerged as the resource-sharing social unit as the Upper Barama River Caribs have been centralized by common participation in regional market networks. Thus, organizational strategies are central in the investigation of this population's changing adaptations.

One point remains for consideration. Using populations as the units for inquiry obviously presumes that local populations, localized in villages, towns, around service centers, or otherwise identifiable, remain as both empirical and theoretical references. The utility of this ecologically derived concept may also dissolve with increased mobility and the impersonalization of entrance into national and international industrial market structures. In such an event, the relevance of population size as a measure of adaptation in specific environmental situations will also be lost as a theoretical tool. As it is with a generation-to-generation perspective, little can be determined regarding increases in population size in relation to the exhaustion of resources. Nevertheless, the degradation of the environment remains the concomitant of reproductive success reflected in increased population size (Alland 1967, 1970).

121 182 *177 [131] [133] It would appear that studies of the relationships between population size and competition for local and external resources in the process of modernization, as in the case of the Upper Barama River Caribs, are appropriate in many similar situations throughout the world. In the Guyanas, which includes the area bounded by the Rio Negro, Amazon and Orinoco rivers, local Amerindian populations are subject to a variety of geographical environments and regional influences. The geographical areas include coastal, inland mountain-savannah, and interfluvial rain forest environments (Gillin 1948:800). Nevertheless, each area is not monolithic regarding the regional influences of national agencies, missionary groups, and entrepreneural agents which also generate adaptive strategies on the part of local populations.

*177 182 171 184 [101] For example, the interfluvial area in which the Upper Barama River Caribs are found is also inhabited by other Amerindian populations, including Caribs, with different adaptations. Along the border between Venezuela and Brazil, the Yanomamö (Chagnon 1968) adapt essentially to the rain forest and engage in warfare, characterized by its attrition, which contributes to the dispersion and limitation of this population. Although they rely on the European introduced plantain as the staple crop, they are largely unaffected by direct external influences. By contrast, the Trio (Rivière 1969), a Carib speaking group, have been recently nucleated around mission stations, a Roman Catholic mission in Brazil and two Protestant missions in Surinam. Carib groups outside the interfluvial area also add contrast to the adaptations of the Upper Barama River Caribs.

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

*177 182 184 More modernized groups include the Caribs of the Maroni River in Surinam (Kloos 1971) and those in western Venezuela (Schwerin 1966) who are differently affected by the economies of the nations of which they are a part. • 121 The diversity of local environments and regional influences invite comparative inquiry concerning economic and reproductive adjustments of local populations. Such inquiries among the Amerindians of the Guyanas remain tied to the realities of the developing world and concern the initial stages of the integration of local populations into national political economies.